

**REMARKS**

This is in response to the Final Action mailed August 8, 2003. The Office Action rejected claims 3, 9-12, and 14-20 under 35 U.S.C. § 103(a).

Claim 3 has been amended to incorporate the limitation of dependent claim 9. Dependent Claim 9 has been cancelled. Claims 3, 10-12, and 14-20 remain pending in the application. Reconsideration in light of the remarks made herein is respectfully requested.

**Rejections Under 35 U.S.C. § 103**

The Office Action also rejected claims 3, 9-12, and 14-20 under 35 U.S.C. § 103 as being unpatentable over Adl (U.S. Patent No. 4,834,479) in view of Nakai et al. (hereinafter Nakai) (U.S. Patent No. 4,345,816) in view of Beyer et al. (hereinafter Beyer) (U.S. Patent No. 6,212,989).

Applicants traverse this rejection in its entirety.

The Patent Office has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Piasecki*, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787 (Fed. Cir. 1984).

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

"In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Applicants submit that the combination of Adl, Nakai, and Beyer is neither feasible nor obvious.

First, Applicants submit that it is not technically feasible to combine the cited references.

The Office Action admits that Adl and Nakai fail to disclose a plug made of ceramic adhesive, but notes that Beyer discloses a pressure vessel with a ceramic plug and the use of a ceramic adhesive to seal the fiber to the ceramic plug (Office Action, Page 4, paragraph 3).

Applicants submit that the present invention claims (literally or substantively) that the "plug is formed from a ceramic adhesive", not that ceramic adhesive is used to seal the fiber to a ceramic plug. Figure 7 of the present application shows how the fiber is place in the cavity 16 and then the cavity is partially filled with ceramic adhesive 24. Once the ceramic adhesive cures, it forms a seal that can withstand high temperatures and high pressures.

Beyer teaches a window assembly 5 for transmitting light into and from a vessel. The assembly includes a window 10 made sapphire (Col. 4, line 66). Nowhere does Beyer teach or suggest that the plug is made of ceramic adhesive. Since this limitation is missing from the prior art, Applicants submit that *prima facie* obviousness has not been met.

Even if the window 10 in Beyer was made of a ceramic material, Applicants submit that it would not be feasible to combine it with the teachings of Adl and Nakai. More particularly, the use of a ceramic window would not serve as a sealant around the fiber as claimed. That is, it would be inconsistent with the use of a viewing window to run a fiber through it.

Notably, Beyer in fact teaches away from the use of adhesives in such high-temperature and high-pressure applications. In Column 3, lines 4, Beyer states "while affixing the window to the seat with an adhesive may be possible, ceramic sealants were found to be too inflexible to withstand the repeated temperature and pressure cycles ...."

Because Beyer does not teach an adhesive as a sealant for high-temperature high-pressure environments and the window 10 does not form a plug around a fiber, Applicants submit that *prima facie* obviousness has not been met.

Second, Applicants submit that there is no motivation to combine the cited references.

In citing a motivation to combine Beyer with Adl and Nakai, the Office Action states that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a ceramic adhesive for sealing the fiber to a ceramic plug since one would be motivated by optical transparency." (Office Action, Page 4, paragraph 3).

In citing a motivation to combine Beyer with Adl and Nakai, the Office Action noted that "one would be motivated by optical transparency." However, transparency is irrelevant to the present claimed invention. The ceramic adhesive is used to seal and secure the fiber in the vessel. There is no motivation to use ceramic adhesive because of any transparent characteristics.

Additionally, the Office Action states that "one of ordinary skill in the art would agree that adhesives are not ideal for sealing effectiveness" and are only used because of ease of manufacturing. (Office Action, Page 4, paragraph 4, to Page 5, paragraph 1). The Office Action's statement that "adhesives are not ideal for sealing effectiveness", in fact teaches away from using ceramic adhesive as a sealant in such high-temperature and high-pressure applications.

Beyer also teaches away from the use of ceramic adhesives in such high-temperature and high-pressure applications. In Column 3, lines 4, Beyer states "while affixing the window to the seat with an adhesive may be possible, ceramic sealants were found to be too inflexible to withstand the repeated temperature and pressure cycles ...."

The present invention claims the use of ceramic adhesive because of its ability to withstand high temperatures and pressures, not for ease of manufacturing. This is counter to the teachings of Beyer and the Examiner's statement. The claimed use of ceramic adhesive, in combination with the other claimed components, distinguishes the present invention from the prior art.

Because Beyer teaches away from the use of ceramic adhesives in the claimed high-temperature, high-pressure vessel, there is no motivation to combine the cited references and prima facie obviousness has not been met.

For at least the reasons discussed above, Applicants submit that the invention recited in claims 3, 10-12 and 14-20 is patentably distinguishable over the cited prior art. Applicants respectfully request that the 35 U.S.C. § 103 over Adl in view of Nakai and further in view of Beyer be withdrawn.

### Conclusion

In view of the remarks made above, it is respectfully submitted that the pending claims are in condition for allowance, and such action is respectfully solicited. Authorization is hereby given to charge our Deposit Account No. 19-2814 for any charges that may be due. Furthermore, if an extension is required, then Applicants hereby request such an extension.

Respectfully submitted,

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